04/16/14 Agenda:

- Section 12.2 day 1 - Surface Area of Prisms

- Homework
    - Worksheet 1 - Surface Area of Prisms

Section 12.2 day 1 - Surface Area of Prisms

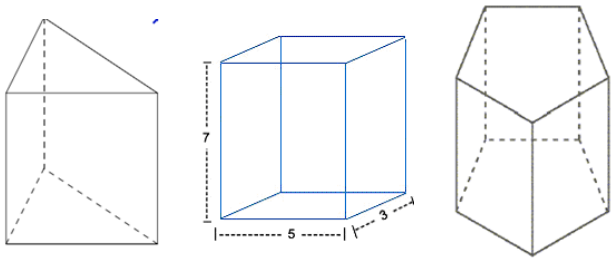
Target 11A April 16, 2014

Goal: Find the Surface Area of a prism.

Definitions:

Prism:

A 3-D shape made up entirely of polygons.
(Remember, polygons do not have curved lines.)



Triangular Prism | Rectangular Prism | Pentangular Prism

Notice the shapes that are the same in the prisms. There are two congruent faces, called ***bases***, that lie in parallel planes. This is how we name a prism.

Parts of a Prism:

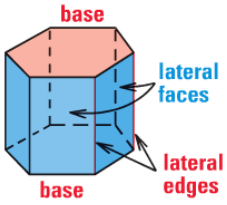
Face: Each polygon surface.

Edge: A line segment formed where two faces meet.

Vertex: A point where three or more faces meet.

Base:

One of two congruent faces that are parallel to each other. The shape of the base gives the prism its' name.



Lateral Faces:

Parallelograms that form the other sides of the prism.

Surface Area: The sum (total) of the areas of the faces.

Lateral Area: The sum (total) of the areas of all the lateral faces.

Finding Surface Area (S.A.):

1.) Find the area of the base. The formula will change with the shape of base.

B = the area of the base

2.) Find the Lateral Area.

LA = p x h (perimeter times the height)

SA = LA + 2B

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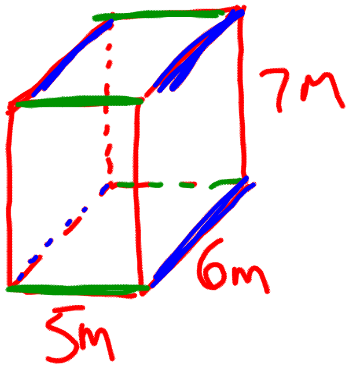

$A_{BASE} = 5m \cdot 6m$
$= 30m^2$

PERIMETER OF BASE $= 22m$

HEIGHT $= 7m$

BASE IS A RECTANGLE

$LA = 22m \cdot 7m$
$= 154m^2$

SURFACE AREA $= LA + 2\,BASE$
$= 154 + 2 \cdot 30$
$= 154 + 60$
$= 214m^2$

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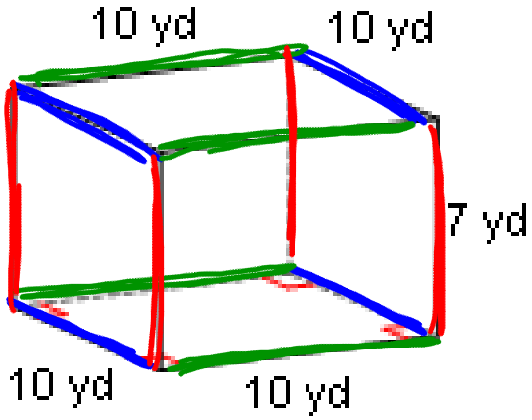

AREA BASE $= 10 \cdot 10 = 100\ yd^2$

PERIMETER BASE $= 40\ yds.$

LATERAL AREA $= P \cdot h = 40 \cdot 7 = 280\ yds^2$

$SA = LA + 2B$

SURFACE AREA $= 280 + 2 \cdot 100$

$480\ yds^2$

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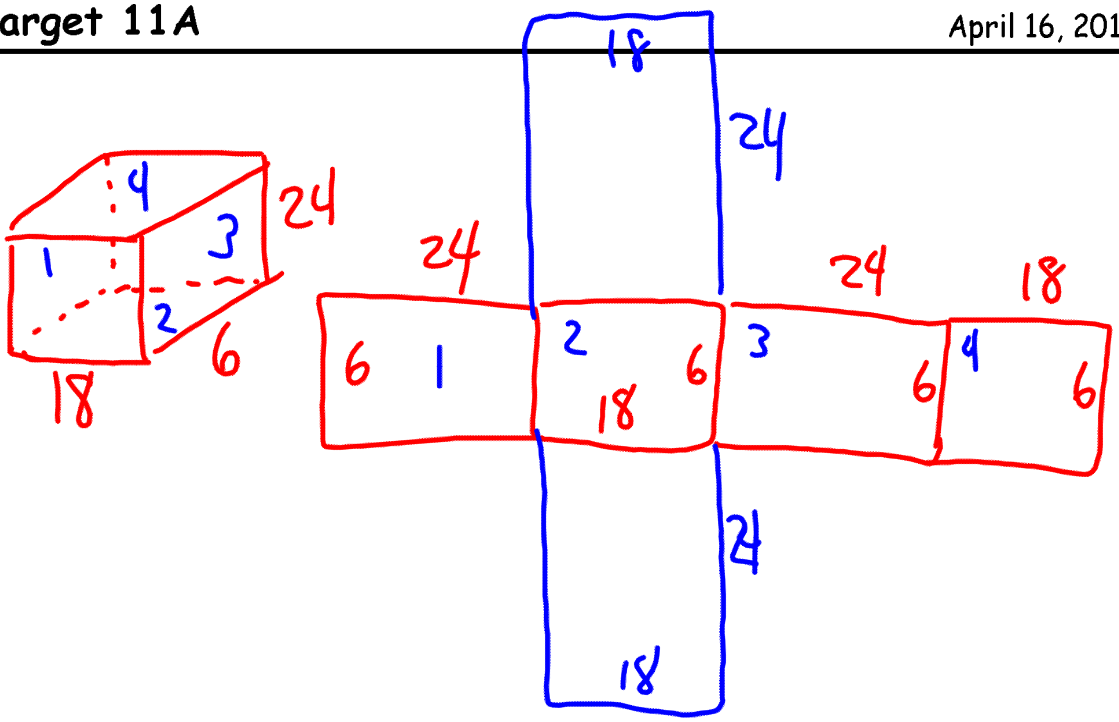

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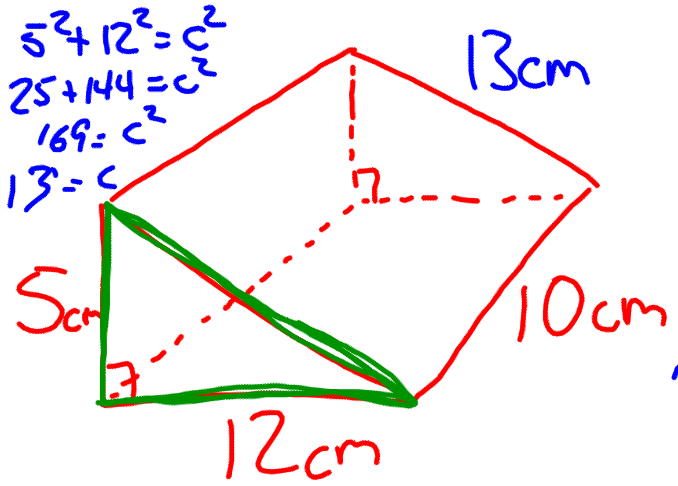

$A_{BASE} = \frac{1}{2}bh$

$= \frac{1}{2} \cdot 5 \cdot 12$

$= 30cm^2$

PERIMETER OF BASE $= 30cm$

LATERAL AREA $= Ph$

$= 30 \cdot 10$

$= 300cm^2$

SURFACE AREA $= LA + 2B$

$= 300 + 2 \cdot 30$

$= 360cm^2$